

Appl. No.: 10/725,355
Amdt. dated December 14, 2006
Reply to Office Action of August 22, 2006

Amendments to the Drawings:

The drawings were objected to for failing to show an indexer/driver system indicated by reference numeral 275. In response, Figure 1 has been amended to include reference numeral 275, as required by the Office Action. As such, the Applicants request that the objections to the drawings be withdrawn.

REMARKS/ARGUMENTS

In light of the following claim amendments and accompanying remarks, re-examination and reconsideration of this application, withdrawal of rejections, and formal notification of the allowability of all claims now presented are earnestly solicited. As detailed in the Office Action mailed August 22, 2006, Claims 1-31 are pending, wherein Claims 1-31 have been rejected. In response to the Office Action, Claims 1, 10, 18, and 28 have been amended. The amendments find support throughout the Specification and Drawings, and no new matter has been added. Accordingly, it is believed that the claims now define patentable subject matter over the art cited in the Office Action, and a notice to such is requested at the Examiner's earliest convenience.

Claim Rejections - 35 USC§ 112

Claims 10-17 and 20 were rejected in the Office Action as being indefinite for allegedly being incomplete with respect to a structural relationship between elements. More particularly, the Office Action asserts that Claim 10 lacks structural relation between the cigarette manufacturing device and the cigarette paper testing device. In response, the Applicants traverse this rejection.

Claim 10 recites a system having a cigarette paper testing device including a second bobbin configured to be capable of receiving the cigarette paper and to have the cigarette paper wound thereon after the cigarette paper is unwound from a first bobbin, wherein **the second bobbin is configured to be received by the cigarette manufacturing apparatus so as to provide the cigarette paper thereto**. In this regard, paragraph [0050] of the Specification notes that the second bobbin can be manually or automatically transferred to the cigarette manufacturing device for the providing the cigarette paper thereto. Thus, the Applicants submit that the system claimed in Claim 10 does provide a structural cooperative relationship between the cigarette paper testing apparatus and the cigarette manufacturing apparatus via the second bobbin having the cigarette paper wound thereon. Therefore, in terms of the claimed system, the Applicants further submit that there is sufficiently definite structural relation between the

cigarette manufacturing device and the cigarette paper testing device. As such, the Applicants request withdrawal of this rejection.

Claim 20 was also rejected in the Office Action as being indefinite. In response, Claim 20 has been cancelled. As such, the Applicants request withdrawal of this rejection.

Claim Rejections - 35 USC§ 103

Claims 1, 3, 6, 9, 10, 12, 15, 18, 20, 23, 26-28, and 31 were rejected in the Office Action as being obvious over U.S. Patent No. 5,966,218 to Bokelman et al. Claims 1-6, 8-15, 17-23, and 25-31 were also rejected in the Office Action as being obvious over the Bokelman '218 patent in view of U.S. Patent Application Publication No. 2004/0187560 to Cholet. In response, Claims 1, 10, 18, and 28 have been amended to clarify the subject matter being claimed.

More particularly, Claim 1 has been amended to recite an apparatus adapted to examine a length of a cigarette paper comprising a pattern including a first band and a second band, with the pattern repeating along the length of the cigarette paper. Such an apparatus comprises a second bobbin configured to be capable of receiving the cigarette paper and to have the cigarette paper advanced thereto and wound thereon after the cigarette paper is unwound from a first bobbin; a pattern detection device disposed between the first and second bobbins and configured to receive the cigarette paper unwound from the first bobbin, wherein the pattern detection device is configured to detect at least one of the bands and produce a signal in response thereto; and a testing device in communication with the pattern detection device and disposed serially therewith between the first and second bobbins, wherein the testing device is configured to nondestructively determine a material property of at least one of the bands in response to the signal, before the cigarette paper is wound on the second bobbin.

Claim 10 has been amended to recite a system for examining a cigarette paper and manufacturing a cigarette therefrom. Such a system comprises a cigarette manufacturing device configured to manufacture the cigarette from a length of the cigarette paper, wherein the cigarette paper has a pattern including a first band and a second band, with the pattern repeating along the length of the cigarette paper. A cigarette paper testing apparatus is adapted to determine a property of one of the bands of the cigarette paper before the cigarette paper is used

to manufacture the cigarette, wherein the cigarette paper testing apparatus comprises a second bobbin configured to be capable of receiving the cigarette paper and to have the cigarette paper advanced thereto and wound thereon after the cigarette paper is unwound from a first bobbin, with the second bobbin being configured to be received by the cigarette manufacturing apparatus so as to provide the cigarette paper thereto; a pattern detection device disposed between the first and second bobbins and configured to receive the cigarette paper unwound from the first bobbin, wherein the pattern detection device is configured to detect at least one of the bands and produce a signal in response thereto; and a testing device in communication with the pattern detection device and disposed serially therewith between the first and second bobbins, wherein the testing device is configured to nondestructively determine a material property of at least one of the bands in response to the signal, before the cigarette paper is wound on the second bobbin.

Claim 18 has been amended to recite a method of examining a length of a cigarette paper having a pattern including a first band and a second band, with the pattern repeating along the length thereof. Such a method comprises detecting at least one of the bands with a pattern detection device disposed between the first and second bobbins as the cigarette paper is advanced to and wound on the second bobbin after being unwound from the first bobbin; producing a signal in response to the detection of the at least one of the bands; and nondestructively determining a material property of at least one of the bands with a testing device in communication with the pattern detection device and disposed serially therewith between the first and second bobbins, in response to the signal and before the cigarette paper is wound on the second bobbin.

Finally, Claim 28 has been amended to recite an apparatus adapted to examine a length of a cigarette paper having opposed ends and comprising a pattern including a first band and a second band, with the pattern repeating along the length thereof. Such an apparatus comprises a driven roller device configured to receive one of the ends and to advance the length of the cigarette paper in a machine direction; a tension device configured to operably engage the cigarette paper prior to the driven roller device, with respect to the machine direction, and to cooperate with the driven roller device so as to maintain a tension on the cigarette paper therebetween; a pattern detection device disposed between the driven roller device and the

tension device, wherein the pattern detection device is configured to receive the cigarette paper, to detect at least one of the bands, and to produce a signal in response thereto; and a testing device in communication with the pattern detection device and disposed serially therewith between the driven roller device and the tension device, wherein the testing device is configured to nondestructively determine a material property of at least one of the bands in response to the signal.

In contrast, the Bokelman '218 patent discloses a bobbin optical inspection system that includes a rewinder machine configured to optically inspect banded paper unwound from a first bobbin by directing an elongated beam of light laterally across the paper. The elongated beam impinges on the surface of the paper and forms reflections. A line scan camera containing a linear CCD array receives the reflections and generates output signals that are processed by a line scan processor to generate data indicative of the spacing between bands, the width of the bands, and the contrast of the bands. After being inspected by the camera, the paper is rewound on a rewind bobbin.

Though the Summary of the Invention section of the Bokelman '218 patent states "[a]s the paper passes from the unwind bobbin to the rewind bobbin, one or more inspection stations analyze the properties of the paper," the very next sentence in the Summary of the Bokelman '218 patent recites that "i]n the context of cigarette paper, the inspection stations can detect the spacing of bands, the width of the bands, and the contrast of the bands." Thus, with respect to the rejection of Claims 1, 10, 18, and 28 over the Bokelman '218 patent, the Applicant submits that the Bokelman '218 patent is directed to a rewinder machine having an optical inspection system with one or more inspection stations, wherein each inspection station is only configured for determining the spacing of bands, the width of the bands, and the contrast of the bands, before the paper is rewound on a rewind bobbin. In regard to this statement, the Applicants *traverse* the Office's allegation that the inspection stations of the Bokelman '218 patent could comprise *either a pattern detection device or a testing device*.

The Applicants further submit that Claims 1, 10, 18, and 28, as amended, particularly recite a testing device for determining a material property of at least one of the bands, wherein the testing device is separately and serially disposed with respect to the pattern detection device,

but is responsive to a signal generated thereby to measure a material property of a band, as the paper advances through the pattern detection and testing devices. In contrast, the Bokelman '218 patent also **does not** teach or suggest a "testing device" configured to determine **a material property** of at least one of the bands of the cigarette paper, separately from the one or more inspection stations, as now recited in Claims 1, 10, 18, and 28, but discusses only an optical inspection system for inspecting the paper. Further, the Bokelman '218 patent **does not** teach or suggest that any of the inspection stations **generates a signal** upon inspections of the bands, **wherein that signal is used to trigger a testing device** to determine **a material property** of a band (This lack of a signal in the disclosure of the Bokelman '218 patent is inasmuch admitted by the Office). That is, the Bokelman '218 patent **does not** disclose any testing device for determining a material property of a band, or any such signal generated by a pattern detection device for triggering the testing device to perform the material property determination.

In addition, contrary to the assertion in the Office Action, **EP 0486213 A1 to Allen et al. is not directed to a testing device for determining burn characteristics of cigarette paper.** Instead, the Allen '213 reference is directed to **a paper** having cross-directional regions of variable basis weight for controlling burn characteristics, as well as **a method and machine for making the same.** Further, the Applicants submit that determining "**burn characteristics**" of the cigarette paper would essentially require **a destructive test**, in contrast to the "**nondestructive**" determination of the material property of the band particularly required by each of Claims 1, 10, 18, and 28 now pending. That is, the Allen '213 **does not disclose a testing device for nondestructively determining a material property of a band of a cigarette paper in response to signal generated by a separate and serially disposed pattern detection device.** as particularly required by the claims now pending.

Thus, for the reasons presented herein, the Applicants submit that Claims 1, 10, 18, and 28, as amended, are patentable over the Bokelman '218 reference and, as such, request withdrawal of these rejections.

With respect to the rejection of Claims 1, 10, 18, and 28 over the Bokelman '218 patent in view of the Cholet '560 reference, the Applicants note that the Cholet '560 reference discloses a permeability testing device that first performs a preliminary stage, which comprises a serial

millimeter by millimeter permeability test along a paper to determine the periodicity of the bands of different porosity levels. In this regard, the Cholet '560 reference notes that this is "the only option for positioning of the strips" (Paragraph [0025]). In the preliminary stage, a permeability profile is first determined, and a processor then determines a sinusoidal curve therefrom. The processor then determines the abscissa of the sinusoidal curve, from which an advancement of the strip is determined to provide the desired positioning for performing the permeability tests. That is, the determined periodicity is then used in a measurement stage by the same permeability testing device to perform the permeability tests along the paper. The permeability testing device disclosed by the Cholet '560 reference is thus used to run a first test to determine the periodicity of the bands of the paper, and then the same device is used to run a second test that uses the determined periodicity in order to perform the permeability tests along the paper.

In response to the rejection, the Applicants traverse the Office's assertion that the permeability testing device of the Cholet '560 reference could also be used as a pattern recognition device, in addition to being a permeability testing device, and therefore obviates the pending claims in conjunction with the Bokelman '218 patent. More particularly, the Applicants note that Claims 1, 10, 18, and 28, as amended, particularly recites the pattern detection device and the testing device as separate elements that are serially disposed with respect to each other. As such, the Applicants submit that the Cholet '560 reference **does not** teach or suggest implementing a **separate** pattern recognition device for locating the bands, to which a testing device responds via a signal generated by the pattern recognition device, but instead discloses **a self-contained testing device** that uses **a two-step process** to first determine periodicity using a series of permeability measurements. Then, once the testing device is switched to a second mode, the determined periodicity is used to perform permeability measurements at predetermined positions along the paper. Thus, the permeability determination along the paper by the testing device **does not** occur in response to a signal communicated thereto by a pattern recognition device upon detection of a band.

MPEP § 2141(II) explicitly states that, when "applying 35 U.S.C. § 103, the following tenets of patent law must be adhered to:

(A) **The claimed invention must be considered as a whole;**

(B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(D) Reasonable expectation of success is the standard with which obviousness is determined.”

In determining the differences between the prior art and the claims, “the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.” MPEP § 2141.02(I) (emphasis added) (citing *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenk v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983)). The teaching or suggestion to make the claimed combination and reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure. MPEP § 2143 (emphasis added) (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Also, “[t]he requirement ‘at the time the invention was made’ is to avoid impermissible hindsight.” MPEP § 2141.01(III) (emphasis added).

The Applicants thus submit that the Bokelman ‘218 patent **does not** disclose any testing device for determining a material property of a band, or any signal generated by a pattern detection device for triggering a testing device to perform a material property determination. Further, the Cholet ‘560 reference **does not** teach or suggest implementing separate testing and pattern recognition devices, or a testing device configured to respond to a signal generated by a pattern recognition device. In this regard, the Applicants reiterate that the pattern detection device and the testing device recited by Claims 1, 10, 18, and 28 are **individual elements** that are serially disposed such that the bands of the cigarette paper are detected by the pattern detection device, and a material property of a band is determined by the testing device in response to a signal communicated thereto by the pattern detection device, as the paper is advanced through those serially disposed elements. Further, Claims 1, 10, 18, and 28 particularly recite that the testing device is configured to determine a material property of the band of the cigarette paper in a nondestructive manner. As such, the Applicants submit that

the Bokelman '218 and Cholet '560 references, either separately or in combination, **do not** teach or suggest the embodiments of the present invention as now claimed in Claims 1, 10, 18, and 28. Claims 1, 10, 18, and 28 now pending are therefore patentable over the Bokelman '218 and Cholet '560 references, and the Applicants request withdrawal of these rejections.

CONCLUSION

In summary, the Bokelman '218, Allen '213, Cholet '560, and George '245 references, either separately or in combination, **do not** teach or suggest the embodiments of the present invention as now recited in independent Claims 1, 10, 18, and 28. Accordingly, in view of the differences between the Applicants' invention and the Bokelman '218, Allen '213, Cholet '560, and George '245 references, it is submitted that the embodiments of the present invention as defined by Claims 1-31 now pending are patentable over the prior art cited in the Office Action. As such, Claims 1-31 are believed to be in condition for immediate allowance, and notice to such effect is requested at the Examiner's earliest opportunity.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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